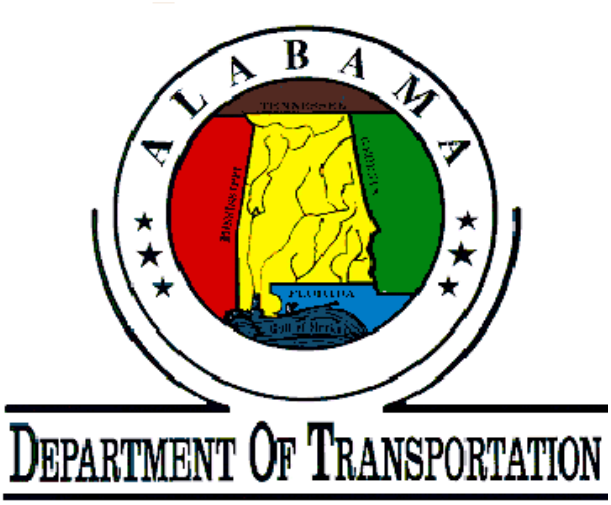
May 2005 through July 2005 STATUS REPORT

VOLUME I OF II: REPORT

COLISEUM BOULEVARD PLUME INVESTIGATION



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Submitted to:
The Alabama Department of Environmental Management
Montgomery, Alabama

May 2005 through July 2005 Status Report

Coliseum Boulevard Plume Investigation

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Summary

During the period between May 1, 2005, and July 31, 2005, investigations at the Coliseum Boulevard Plume (CBP) site continued.

- Routine monitoring of selected ground-water monitoring wells and continuous multi-channel tubing (CMT) wells, the Kilby Ditch and the "Low-Lying Area" were conducted in July 2005 in accordance with the approved plans and are summarized in Section I. This report contains results of samples collected through July 31, 2005.
- Additional site-wide investigations continued around the perimeter of the investigation area and included ground-water sampling at select locations as outlined in Addendum 14 – Additional Site-Wide Investigations.

Section II of this report contains information regarding the work completed by July 31, 2005.

Section III contains information about the investigation derived waste and treated water generated during this period.

Section IV contains a summary of quality assurance/quality control (QA/QC) samples collected during this period.

Section V contains a summary of monitoring well abandonment activities conducted on property owned by the ADEM.

I. Routine Monitoring

Water Level Measurements

- July 6 through July 8, 2005: Depths to ground water were measured in piezometers, monitoring wells, CMT wells, and pump test wells associated with the Coliseum Boulevard Plume Investigation. Ground-water elevations on July 5 through July 8, 2005, are provided in Tables 1a through 1f. Ground-water elevations on July 5 through July 8, 2005, in the 100- and 200-series "shallow zone" monitoring wells and piezometers are shown on Figures 1 and 2, respectively.

  Depths to ground water were measured in continuous multi-channel tubing (CMT) wells 1 through 7 (see Table 2) on July 8, 2005. The water levels were not measured in CMT 1-2, 1-7, 2-7, 3-7 and CMT 4-7 on July 8, 2005, because of an obstruction in the well ports that prevented the water level indicator cable from freely advancing through the ports.

Quarterly Sampling Event (Modification to Addendum 13 Work Plan)

- A quarterly event under the Modification to Addendum 13 – Ground Water Monitoring Plan (dated March 17, 2005) was conducted in July 2005. Ground-water samples were collected from 57 monitoring wells at the Coliseum Boulevard Plume site for analyses for VOCs.

- July 6 through July 28, 2005: During the quarterly event of the approved modified ground-water monitoring program, samples were collected from the following 57 wells located at the Coliseum Boulevard Plume (CBP) site.

MW-101	MW-116	MW-130	MW-137A	MW-244C	MW-250B
MW-201	MW-216	MW-230	MW-237B	MW-145A	MW-250C
MW-103	MW-117	MW-131	MW-237C	MW-146A	MW-151A
MW-203	MW-217	MW-231	MW-138A	MW-246B	MW-251B
MW-106	MW-123	MW-132	MW-238B	MW-147A	MW-152A
MW-206	MW-223	MW-232	MW-238C	MW-247B	MW-252B
MW-107	MW-124	MW-133	MW-143A	MW-149A	MW-341
MW-207	MW-224	MW-233	MW-243B	MW-249B	
MW-108	MW-129	MW-134	MW-144A	MW-249C	
MW-208	MW-229	MW-234	MW-244B	MW-150A	

These 57 monitoring wells were sampled and analyzed for VOCs by **TTL**'s laboratory using EPA Method 8260. The ground-water samples were measured in the field for

ferrous iron and total iron using a CHEMetrics VVR photometer®.

Samples were also collected from monitoring wells MW-143A, MW-243B, MW-144A, MW-244B, MW-244C, MW-145A, MW-146A, MW-246B, MW-147A, MW-247B, MW-149A, MW-249B, MW-249C, MW-150A, MW-250B, MW-250C, MW-151A, MW-251B, MW-152A, and MW-252B and analyzed for inorganics (total alkalinity, chloride, nitrate, nitrite, and sulfate) by **TTL**'s laboratory and for dissolved gases (methane, ethane and ethene) by STL in Burlington, Virginia. The results of the analyses of detected VOCs in the ground-water samples collected from the monitoring wells are provided in Table 3. The results of the analyses for total alkalinity, chloride, nitrate, nitrite, sulfate, ferrous and total iron, methane, ethane, and ethene in the ground-water samples collected from the approved monitoring wells under the Modification to Addendum 13 are provided in Table 4. The concentrations of detected VOCs in ground-water samples collected from the monitoring wells are shown on Plate 1 and Figure 3. Laboratory reports of the results of the analyses of the ground-water samples collected during the month of July 2005 are provided on the attached compact disc - recordable (CD-R).

Prior to sample collection, the monitoring wells were purged using a bladder pump until field parameters (pH, conductivity, and turbidity) stabilized. Temperature and redox (ORP) were also measured in the field. The field parameter measurements during purging of the monitoring wells in the month of July 2005 are provided on the Monitoring Well Sampling Forms on the attached CD-R.

- July 2005: Ground-water samples were collected from 9 monitoring wells (MW-106, MW-206, MW-107, MW-207, MW-223, MW-130, MW-230, MW-131, and MW-231) and analyzed for total organic carbon (TOC). The results of these analyses are provided in Table 5. Laboratory reports of the results of the analyses for TOC in the ground-water samples collected during the month of July 2005 are provided on the attached CD-R.

Quarterly Sampling of the Continuous Multi-Channel Tubing (CMT) Wells

- July 21 though July 27, 2005: Ground-water samples were collected from CMT wells 1, 2, 3 and 4. Ground-water samples were not collected from CMT 3-1 (on 7/25/05), CMT 1-4 (on 7/26/05) and CMT 4-1 (on 4/26/05) due to the lack of sufficient water in the CMT ports. After measuring depths to water, each port was purged using a peristaltic pump until field parameters (pH, conductivity, and turbidity) stabilized. Ground-water samples also were measured in the field for temperature, oxidation-reduction potential [redox (ORP)], ferrous [Fe (II)] and total iron. Approximately 2 to 6 gallons of water were removed from each of the CMT ports prior to sample collection. During sample collection, the tubing from the pump was disconnected and withdrawn from the port.

The water samples were collected by draining the water from the bottom end of the tubing (end previously inside the port) into the sample containers. The ground-water samples were analyzed for VOCs by **TTL**'s laboratory. Results of analyses of detected VOCs in the ground-water samples collected from the CMT wells are provided in Table 6. Samples for total iron analyses were collected from CMT 3-2 and CMT 3-5 on July 25, 2005, for quality assurance/ quality control purposes. The results of the analyses for ferrous and total iron are provided in Table 7. Laboratory reports of these analyses and copies of Monitoring Well Sampling Forms are provided on the attached CD-R.

Surface Water Sampling

- July 11, 2005: Surface water samples were collected from the west and main branches of Kilby Ditch at five locations (compliance points CP-1, CP-2, CP-3, and monitoring points MP-1 and MP-2). On July 11, 2005, the surface water samples were collected at each location from the central part of the ditch. Figure 4 shows the locations of these five sampling points. The water samples were placed on ice and transported to **TTL**'s laboratory for analyses for VOCs. Results of analyses of detected VOCs are provided in Table 8. The laboratory reports for the VOC analyses of the surface water samples collected on July 11, 2005, are provided on the attached CD-R. During sample collection, the water samples also were measured for temperature, pH, conductivity, dissolved oxygen, and turbidity (see Table 9).

  On July 11, 2005, compliance point water samples CP-1, CP-2, and CP-3 contained 7.72 µg/L (micrograms per liter), 3.8J µg/L, and 2.2J µg/L of trichloroethylene (TCE). The J-flag associated with the concentration means the concentration is below the calibration curve, but above the method detection limit. TCE concentrations detected in the samples collected from CP-1, CP-2 and CP-3 on July 11, 2005, are below the action level concentration of 175 µg/L for TCE in surface water.

  Surface water samples at locations MP-1 and MP-2 contained TCE (10.4 µg/L and 22.6 µg/L, respectively) on July 11, 2005. There also was detection of cis-1,2-dichloroethene (1.1J µg/L) in the surface water sample collected from MP-2 on July 11, 2005.

Low – Lying Area (Addendum 04 Work Plan)

- July 21, 2005: On July 21, 2005, soil/sediment and surface-water samples were collected from locations I, J, K, L, M, N, O, and P in the "Low-Lying Area". Results of the analyses for VOCs in the soil/sediment and surface water samples collected from locations I, J, K, L, M, N, O, and P on July 21, 2005, are provided in Tables 10 and 11, respectively. Laboratory reports of these analyses are provided on the attached CD-R.

II. Additional Site-Wide Investigation

- May 19 through July 14, 2005: As a part of investigation activities approved under Addendum 14, submitted to the ADEM on February 13, 2004, 11 probeholes (identified as PH137 through PH147) were installed in selected areas around the perimeter of the investigation area (see Figure 7) to further delineate the outermost boundaries of the TCE plume. Ground-water samples were collected from probeholes PH 137 through PH 147, and were analyzed for VOCs (see Table 12). Laboratory reports of these analyses and copies of the soil conductivity and boring logs are provided on the attached CD-R.

III. Investigation Derived Waste

Water Treatment

- May 2, 2005: Water accumulated during cleaning of sampling equipment, and purging and sampling of monitoring wells, was treated through a liquid-phase carbon filter treatment system at the ALDOT staging area. A total of 1,203 gallons of water was treated on May 2, 2005 (see Table 13). The treated water was discharged into the sanitary sewer at the staging area. During treatment of the water, samples were collected from water discharged from the first carbon filter to monitor for breakthrough and from the second carbon filter to monitor for compliance with the Montgomery Water Works and Sanitary Sewer Board discharge requirements. The water samples were submitted for VOC analyses. Results of analyses of detected VOCs and volumes of treated water are provided in Table 13. Laboratory reports of the analytical results for samples collected in May 2005 are on the attached CD-R.

IV. Quality Assurance/Quality Control

- During the July 2005 quarterly ground-water sampling event, duplicate ground-water samples were collected from monitoring wells MW-130, MW-132, MW-138A, MW-145A, MW-149A, MW-208 and MW-237C and CMT wells CMT 3-2 and CMT 3-5 and analyzed for VOCs. The duplicate sample results are shown with the parent sample results (see Tables 3 and 6). Samples collected from monitoring wells MW-145A and MW-149A were analyzed for inorganics (alkalinity, chloride, nitrate, nitrite, and sulfate) by **TTL** and dissolved gases (methane, ethane, and ethene) by STL. Ground-water samples also were collected from MW-130, MW-132, MW-138A, MW-145A, MW-146A, MW-149A, MW-208, MW-237C, CMT 3-2 and CMT 3-5 and shipped to **TTL**'s laboratory to be analyzed for total iron for quality assurance/quality control purposes (see Tables 4 and

7). Equipment rinse samples were collected and trip blank samples accompanied water samples that were submitted for analyses for VOCs in July 2005. Results of analyses of detected VOCs in the rinse and trip blank samples are provided in Table 14. Laboratory reports of the analyses are provided on the attached CD-R.

V. Monitoring Well Abandonment

- On May 12, 2005, the ADEM requested that ground water monitoring wells (monitoring wells, MW-122, MW-220, and MW-222) associated with the Coliseum Boulevard Plume Investigation on property owned by the ADEM at 1400 Coliseum Boulevard in Montgomery, Alabama, be abandoned to allow for new construction. Historically, concentrations of volatile organic compounds have either not been detected in groundwater samples collected from the monitoring wells or have been detected at levels below the calibration curve (See Table 3 of November 2004 – January 2005 Status Report). The ALDOT contracted **TTL**, **Inc.** to abandon the three monitoring wells in accordance with ADEM Administrative Code R. 335-6-15-.29(8). On May 20, 2005, the monitoring wells (MW-122, MW-220, MW-222) located on the ADEM property, which ranged in depth from about 27 to 57.5 feet BLS (below land surface), were abandoned. The monitoring wells were over-drilled with an ALDOT truck-mounted drill rig, using 4¼-inch I.D. (inside diameter) hollow-stem augers and a stinger bit. On May 20, 2005, the boreholes of the monitoring wells were filled to the surface with cement-bentonite grout. Locations of the former monitoring wells can be referenced on Plate 1.